

Grambling State University
Department of Chemistry
Organic & Biological Chemistry Laboratory
CHEM 108

PROFESSOR:

OFFICE:

TELEPHONE:

EMAIL:

OFFICE HOURS:

Appointments also available.

APPOINTMENTS: Appointments may be made by contacting the instructor. For subsequent cancellations please notify the instructor at least one day in advance.

ATTENDANCE: All students are expected to attend and complete each scheduled laboratory class throughout the semester. Any student who misses four (4) or more laboratory classes, or who fails to submit the corresponding laboratory assignments/reports to those classes, will receive a failing grade.

LABORATORY RULES: There will be **NO** eating or drinking allowed in the class/laboratory. No recording devices are allowed in the classroom/laboratory. As common courtesy dictates, please do not wear caps/hats/headgear in the classroom/laboratory. Likewise, absolutely **NO** cellular phones/pagers will be allowed. **The use of cell phones (including texting) and pagers will result in dismissal from the laboratory and student will not be allowed to participate in any unfinished work for that day.**

LABORATORY SAFETY RULES: Everyone must follow the safety rules given in the the College of Arts and Sciences Safety Agreement and ALL additional safety precautions given by your instructor. Safety is paramount in the laboratory. **You must read, understand, and sign the College of Arts and Sciences Safety Agreement given to you by your instructor. There can be no horseplay. Failure to observe safety practices will result in dismissal from the laboratory and the loss of grade points.**

CLEANLINESS/HOUSEKEEPING: Students should leave a clean bench after each laboratory class. Return glassware and chemicals to the assigned areas from which they came at the beginning of class.

COURSE PREREQUISITE(S): These are determined by the student's degree program plan of study and with the advice of their advisor. Students should consult their advisors prior to enrolling in this course.

NUMBER OF HOURS OF COURSE: One (1) credit hour.

COURSE DESCRIPTION/OVERVIEW: This is primarily a course tailored to students pursuing a career in nursing, and teaches experiments illustrating the principles of organic and biological chemistry.

COURSE GOALS/COMPETENCIES: To (a) develop a better understanding and appreciation of organic chemistry and biochemistry by performing hands-on experiments; and to (b) understand safety in the laboratory.

Course Content:

1. Laboratory Safety
 - Basic rule for lab safety
 - Learn how to deal with accident
 - Learn how to handle safety facilities
2. Chemical Models: Ball and Stick Models of Organic Compounds
 - ◆ Understand the 3-D structures of compounds
 - ◆ Learn to construct organic compounds by using Ball and Stick models
3. Estimating the pH of Household products using Red Cabbage extract as an indicator
 - Extract the red pigments from red cabbage
 - Test and find the pH of some household products
 - Learn the chemistry of indicator in pH measurement
4. Dipeptide and Amino Acid Identification by Paper Chromatography
 - Identify various dipeptides and amino acids by paper chromatography
 - Learn to calculate R_f value
 - Learn the chemistry of ninhydrin with amino acids
5. Isolating caffeine from tea
 - Learn to purify extracted caffeine by sublimation
 - Learn to classify alkaloids and sub class of alkaloids known as xanthines
6. Analyzing Vitamin C in Fruit Juice
 - Quantitative analysis of Vitamin C
 - To understand the concepts associated with titration
7. Synthesis of Aspirin
 - Prepare aspirin from salicylic acid and acetic anhydride
 - Purification of aspirin
 - Chemical test of phenolic compound
 - To understand the concepts of esterification reactions

REQUIRED TEXTS: Chemistry 108 Lab Manual. Available from the GSU Bookstore.

REQUIRED MATERIALS:: Students must wear approved safety goggles with no holes around the eye-frame. The approved safety goggles are sold GSU Bookstore.

TEACHING TECHNIQUES/METHODS USED IN COURSE: Lectures, hands-on practical laboratory work, multiple choice/short answer tests and quizzes, discussions, pre-lab. assignments and problem solving homework.

ASSESSMENTS USED: Students are required to read the scheduled experiment before class/laboratory. See the schedule. If the experiment has a pre-laboratory assignment, students have to complete it before class/laboratory and hand it in at the beginning of that laboratory class unless otherwise indicated.

Students earn a maximum of 100 points for each completed laboratory: 60 points (assignment) + 40 points (pre-lab. assignment, technical ability, safety and cleanliness/housekeeping).

Quizzes, a mid-term (100 points), and a final examination (200 points) are given each semester during class time. **Each student must present a valid university ID during the administration of quizzes and examinations.**

LABORATORY ASSIGNMENT: Students have to fill out experimental data sheets in the lab manual during the allocated laboratory time and request the instructor's signature. Laboratory assignments without a signature will not be graded. Students should hand-in assignments on the due date.

GRADE EVALUATION: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (< 60%).

LAB./EXAM. MAKE-UP POLICY: A strict make-up policy is enforced. On rare instances, make-ups will be permitted, but must be based on valid emergencies (accompanied with *bona fide* paperwork) and will be handled through the instructor.

DISABILITY STATEMENT: Students with disabilities who seek reasonable accommodations in the classroom or other aspects of performing their coursework must first register with the GSU Counseling Center located in Foster-Johnson Health Center. Staff members at the Counseling Center will work with students to obtain the required disability documentation, and to identify appropriate accommodations as required by applicable disability laws including the Americans with Disabilities Act (ADA). After receiving all necessary documentation, their staff will then determine whether a student qualifies for services with the Center and if so, the accommodations for the student will be provided. The staff then prepares a letter for the student to provide to their professors advising them of approved accommodations. For further information, contact the Counseling Center ADA office at (318) 274-3338.

ACADEMIC HONESTY STATEMENT: Students are expected to adhere to the highest standards of academic honesty as outlined in the GSU Student Handbook. The University's academic honesty policy will be strictly enforced. Academic dishonesty of any type will not be tolerated. **Academic dishonesty will result in the grade of an "F" on the assignment and/or in the course and/or the student may be reported to the Vice President for Academic Affairs for further action. Student's found guilty of a second offense may be indefinitely suspended from the University.** In no instance will lack of familiarity with this policy excuse the violation.

IMPORTANT DEADLINES: 22 August 2008 Last day to add/drop this class.
24 October 2008 Last day to withdraw from this course without refund.